

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

1. (previously presented) An apparatus for plasticating resinous material, comprising:

a barrel formed of material having a first coefficient of thermal conduction, including a wall extending axially and laterally and having an outer surface and an inner surface, the wall having a thickness formed with mutually spaced holes extending at least partially through the thickness; and

conductors having a second coefficient of thermal conduction greater than the first coefficient, each conductor located in and engaging a hole, each hole is any of a first group including a cylindrical hole, a stepped cylindrical hole and a conical holes, each hole including a radial surface and a radially inner bottom surface, the radial surface extending from the outer surface partially through the thickness toward the inner surface and the bottom surface, the bottom surface having any of a second group including a flat surface, a beveled surface, and a surface having a spherical radius; and

each conductor is any of third group including a cylinder, a stepped cylinder and a conical cylinder, each conductor being sized to fit within its corresponding hole and to engage the radial surface of said hole.

2. (original) The apparatus of claim 1, further comprising:

a rotatable screw located within the inner surface, including an axial core, and a main flight arranged helically on, and extending radially from the core, and including a push surface for urging material to move along the barrel as the screw rotates.

3. (original) The apparatus of claim 1, wherein:

the barrel is of steel; and

the conductors are formed of one of copper, beryllium copper, oxygen-free copper, aluminum, and silver.

4. (original) The apparatus of claim 1, wherein:

the barrel is of steel; and

the conductors are formed of a material having a coefficient of thermal conduction that is at least four times greater than the coefficient of thermal conduction of the steel.

5. (original) The apparatus of claim 1, wherein the holes are mutually spaced

and arranged in staggered axially directed rows with adjacent rows being mutually offset

laterally, and the holes are staggered in laterally directed columns with adjacent columns being mutually offset axially.

6. (canceled)

7. (canceled)

8. (previously presented) The apparatus of claim 1, wherein:
the radial surface extending toward the inner surface from the outer surface into the wall
to a depth in the range of 50-65 percent of the thickness.

9. (canceled)

10. (canceled)

11. (canceled)

12. (canceled)

13. (canceled)

14. (previously presented) An apparatus for plasticating resinous material,
comprising:

a barrel formed of material having a first coefficient of thermal conduction, including a
wall surrounding a cavity, the wall extending axially and laterally, having an outer surface and
an inner surface, and a thickness containing mutually spaced holes extending at least partially
through the thickness; and

a rotatable screw located within the cavity, including an axial core, and a main flight arranged helically on, and extending radially from the core, and including a push surface for urging material to move along the barrel as the screw rotates; and

a plurality of conductors having a second coefficient of thermal conduction greater than the first coefficient, each conductor located in and engaging a hole, each hole is any of a first group including a cylindrical hole, a stepped cylindrical hole and a conical holes, each hole including a radial surface and a radially inner bottom surface, the lateral surface extending from the outer surface partially through the thickness toward the inner surface and the bottom surface, the bottom surface having any of a second group including a flat surface, a beveled surface, and a surface having a spherical radius; and

each conductor is any of a third group including a cylinder, a stepped cylinder and a conical cylinder, each conductor being sized to fit within its corresponding hole and to engage the radial surface of said hole.

15. (original) The apparatus of claim 14, wherein the barrel is made of steel, and the conductors are formed of one of copper, beryllium copper, oxygen-free copper, aluminum, and silver.

16. (original) The apparatus of claim 14, wherein the barrel is made of steel, and the conductors are formed of a material having the second coefficient of thermal conduction that is at least four times greater than the first coefficient of thermal conduction of the steel.

17. (original) The apparatus of claim 14, wherein the holes are mutually spaced and arranged in staggered axially directed rows with adjacent rows being mutually offset laterally, and the holes being staggered in laterally directed columns with adjacent columns being mutually offset axially.

18. (canceled)

19. (canceled)

20. (previously presented) The apparatus of claim 14, wherein:
the radial surface extending toward the inner surface from the outer surface into the wall to a depth in the range of 50-65 percent of the barrel thickness.